



Megan Sullivan, P.E.
Division of Water Resources
Office of the State Engineer
1313 Sherman Street, Room 818
Denver CO 80203

August 22, 2018

RE: Town of Carbondale, Division 5 Request for Approval of an
Emergency Substitute Water Supply Plan

Dear Megan:

On behalf of the Town of Carbondale (Applicant or Town), Resource Engineering, Inc. (RESOURCE) requests approval of an Emergency Substitute Water Supply Plan (ESWSP) submitted pursuant to C.R.S. § 37-92-308(7) for operation of their municipal system during a period of extreme drought. The requested approval period is for 91 days, commencing on the day the plan receives approval by the state engineer. The applicant's contact information is:

Town of Carbondale
511 Colorado Ave.
Carbondale, CO 81623

This ESWSP request was provided electronically to dwrpermitsonline@state.co.us and the \$300 filing fee will be paid by credit card following the submittal.

BACKGROUND

On August 8, 2018, a call was placed at the Ella Ditch headgate, a diversion structure located on the Crystal River, tributary to the Roaring Fork River. The calling water right has a priority date of May 30, 1905. Diversions for the Town's primary municipal water system occurs upstream of the Ella Ditch on Nettle Creek under their Carbondale Water System and Pipeline and First Enlargement water rights. Water is treated at the Town's water treatment plant, located on Nettle Creek, and piped down the Crystal River valley for use within the Town's service area. The Town's Nettle Creek water system and pipeline water rights are junior to the call placed at the Ella Ditch headgate, and therefore, is required to curtail its diversions leaving some of the Town users without a water supply and the Town without any backup should something happen to the Town's other supplies. This is an unprecedented event caused by extreme drought conditions in the 2018 water year. The situation leaves the Town without a way to treat and deliver potable water to some of their customers, which affects the public health and safety of the Town residents.

The East Mesa Ditch is located upstream of the Nettle Creek confluence with the Crystal River. The headgate is located on the east bank of the Crystal River, at a point whence the

quarter corner between Sections 9 and 10, Township 9 South, Range 88 West bears North 61°12' East 527.84 feet. The location of the East Mesa Ditch is shown on **Figure 1**. The East Mesa Ditch water right was adjudicated on December 12, 1902 for 31.8 cfs with priority number 210A and an appropriation date of August 9, 1894. This water right is senior to the call placed at the Ella Ditch headgate.

East Mesa Ditch has agreed to loan 1.0 cfs of their Priority 210A water right to the Town. A copy of the Water Loan Agreement between the East Mesa Water Company and the Town is attached in **Appendix A**. The Town is seeking approval for East Mesa Ditch to bypass 1.0 cfs of its senior water right in order to divert a similar amount downstream by exchange at its South Nettle Collection System. Nettle Creek is a tributary of the Crystal River located downstream of the East Mesa Ditch headgate. A map showing the Town's water rights are shown on **Figure 1**. The water diversions and depletions and operation of the ESWSP are described below.

WATER DIVERSIONS, DEPLETIONS, AND OPERATION OF PLAN

1.0 cfs of the 31.8 cfs East Mesa Ditch Priority No. 210A water right will be bypassed at the East Mesa Ditch headgate and diverted downstream by exchange at the Town's Carbondale Water System and Pipeline and First Enlargement water rights. The 1.0 cfs bypass will be utilized to mitigate the impact of domestic diversions occurring downstream of the East Mesa Ditch headgate.

The water diverted at Nettle Creek will be treated at the water treatment plant and piped down for use within the Town's service area. Depletions from the point of diversion down to the Town's service area are considered to be 100% consumptive to the Crystal River. The Town and the Colorado Division of Water Resources (CDWR) have observed approximately 3.0 cfs of return flow accruing directly to the Roaring Fork River from lands irrigated using the East Mesa Ditch Priority No. 210A water right. The Town will replace that portion of the return flows attributable to the 1.0 cfs of water that will be loaned to the Town and no longer delivered to the lands irrigated with the Priority 210A water right. The source of replacement supply will consist of a portion of the Town's 500 acre-foot contract pool that it maintains in Ruedi Reservoir.

For purposes of this ESWSP application, the Town estimates the total lands irrigated using the East Mesa Ditch Priority No. 210A water right is approximately 630 acres +/- . Of this total, approximately 380 acres +/-, or 60% are associated with irrigated fields located in the northern region of the East Mesa irrigation system; which return flows accrue directly to the Roaring Fork River. Based upon the 1.0 cfs loaned to the Town, RESOURCE estimates that the percentage of the observed 3.0 cfs return flow that the Town will be responsible for replacing to the Roaring Fork River is approximately 5.24% $[1/(0.6 \times 31.8)]$, or 0.16 cfs. This rate corresponds to approximately 0.32 acre-feet per day. The Town will request the release of this amount of water from its account in Ruedi Reservoir to replace the return flows that otherwise would have accrued to the Roaring Fork River. The releases will continue through

the duration of this ESWSP, or until the senior call on the Crystal River is released. That amount of water to be released from Ruedi Reservoir will be coordinated with the Division 5 Engineer's Office.


No Injury to Vested Water Rights

If the ESWSP is operated as described above, there will be no injury to other vested water rights.

Please call if you have any questions or need additional information.

Sincerely,

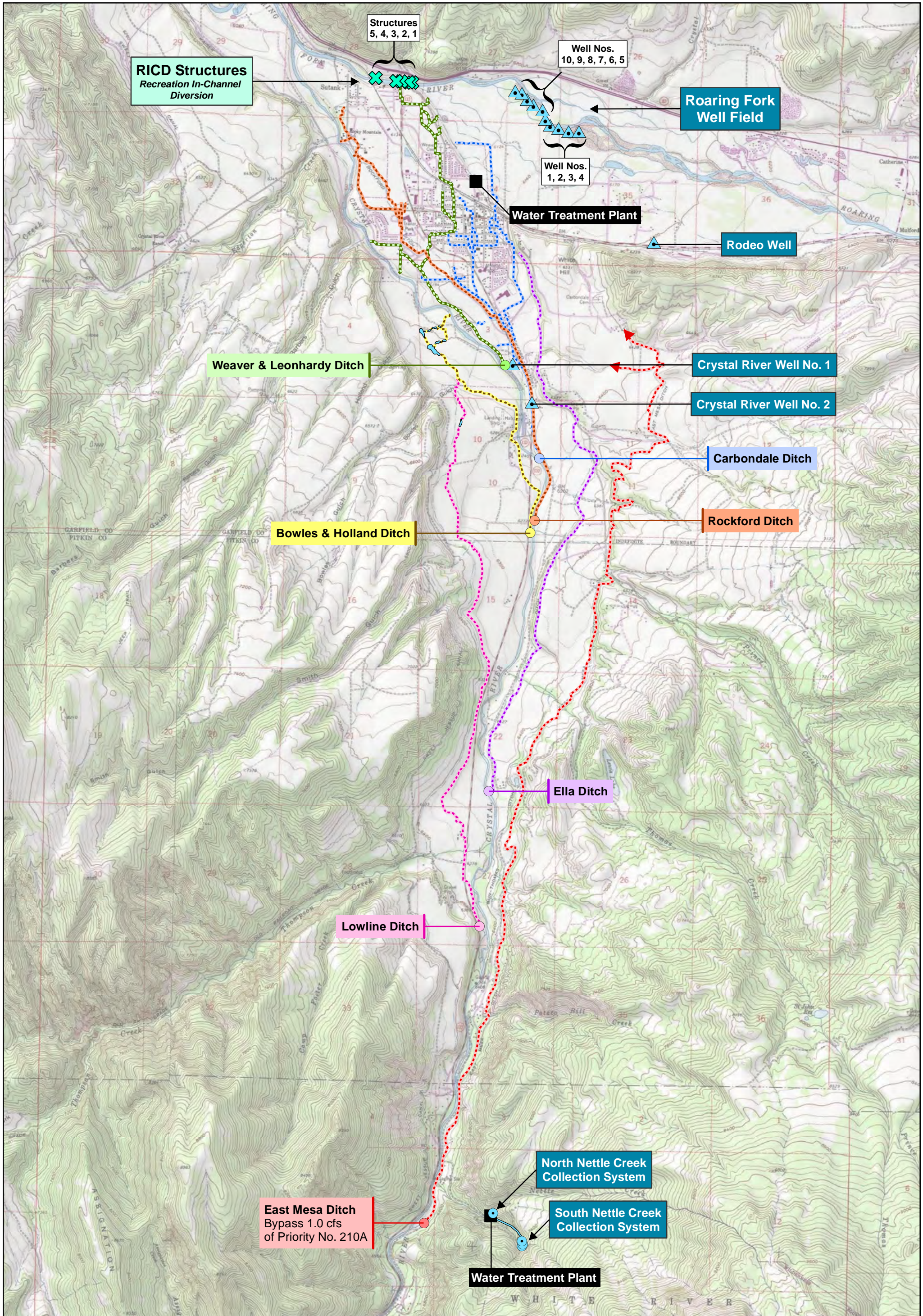
RESOURCE ENGINEERING, INC.



Michael J. Erion, P.E.
Water Resources Engineer

Attachments

CC: Alan Martellaro, P.E., Division 5 Engineer, w/attachments
Jake DeWolfe, District 38 Water Commissioner, w/attachments
Mark Hamilton, Esq., w/attachments
Jay Harrington, Town of Carbondale, w/attachments
East Mesa Water Company c/o Chris Geiger, Esq., w/attachments



**Figure 1: Emergency Substitute Supply Plan
Town of Carbondale Water Right and East Mesa Ditch Location Map**

APPENDIX A